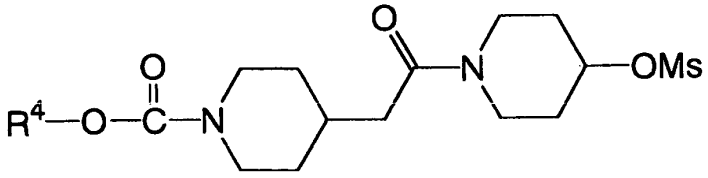
WHAT IS CLAIMED IS:

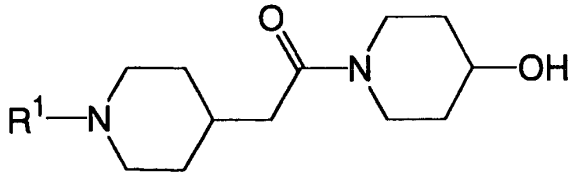
1. A method of producing an N-alkoxycarbonylpiperidine derivative represented by the following general formula (4):



(4)

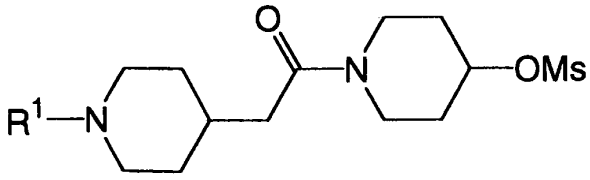
wherein R^4 represents an alkyl group and Ms represents a mesyl group, comprising:

reacting an N-aralkylpiperidine derivative represented by the following general formula (1):



(1)

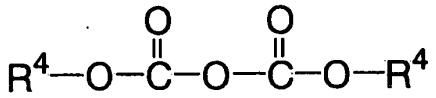
wherein R^1 represents an aralkyl group which may have a substituent, with a mesyl halide in the presence of a base, thereby obtaining a mesylated product represented by the following general formula (2):



(2)

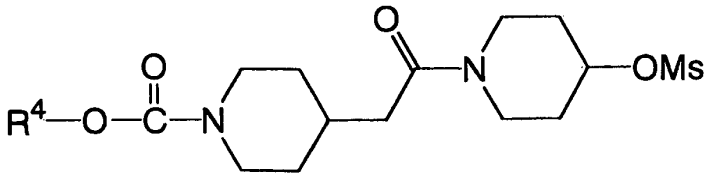
wherein R^1 represents an aralkyl group which may have a substituent and Ms represents a mesyl group; and

reacting the mesylated product with a dicarbonate represented by the following general formula (3):



(3)

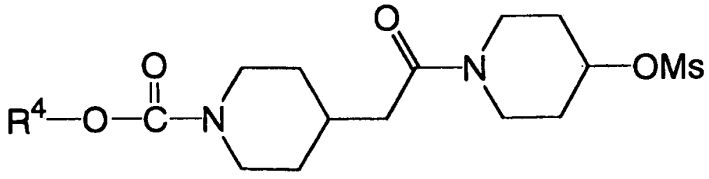
wherein R^4 represents an alkyl group, in the presence of hydrogen and a catalyst containing palladium, thereby obtaining an N-alkoxycarbonylpiperidine derivative represented by the following general formula (4):



(4)

wherein R^4 represents an alkyl group and Ms represents a mesyl group.

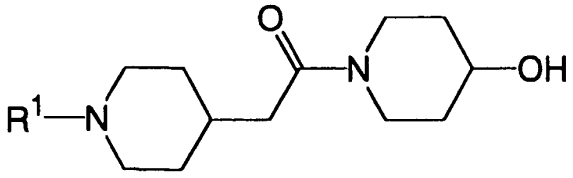
2. A method of producing an N-alkoxycarbonylpiperidine derivative represented by the following general formula (4):



(4)

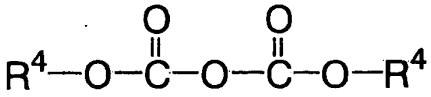
wherein R^4 represents an alkyl group and Ms represents a mesyl group, comprising:

reacting an N-aralkylpiperidine derivative represented by the following general formula (1):



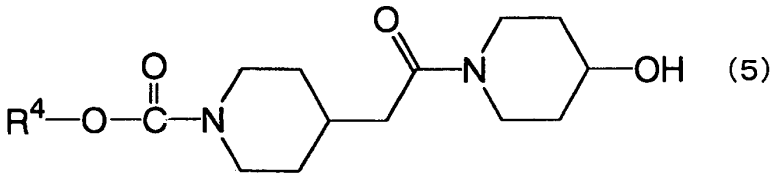
(1)

wherein R^1 represents an aralkyl group which may have a substituent, with a dicarbonate represented by the following general formula (3):



(3)

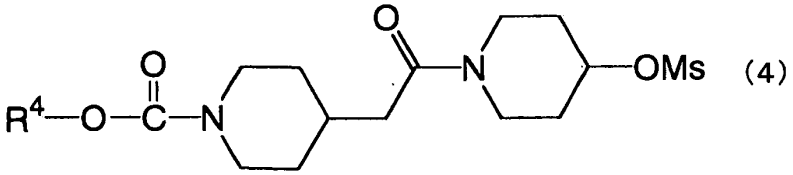
wherein R^4 represents an alkyl group, in the presence of hydrogen and a catalyst containing palladium, thereby obtaining an alkoxycarbonylated product represented by the following general formula (5):



(5)

wherein R^4 represents an alkyl group; and

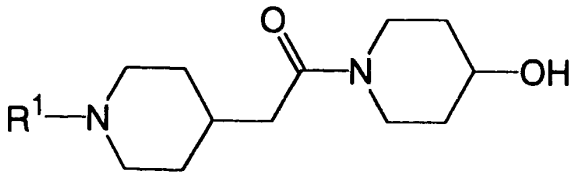
reacting the alkoxycarbonylated product with a mesyl halide in the presence of a base, thereby obtaining an N-alkoxycarbonylpiperidine derivative represented by the following general formula (4):



(4)

wherein R^4 represents an alkyl group and Ms represents a mesyl group.

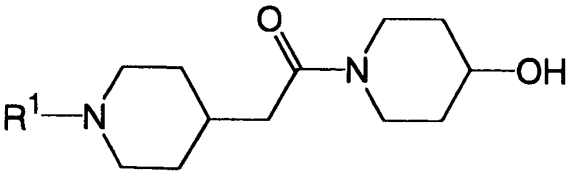
3. An N-aralkylpiperidine derivative represented by the following general formula (1):



(1)

wherein R^1 represents an aralkyl group which may have a substituent.

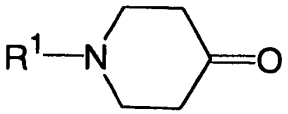
4. A method of producing an N-aralkylpiperidine derivative represented by the following general formula (1):



(1)

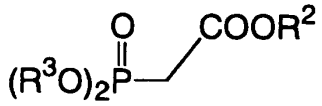
wherein R^1 represents an aralkyl group which may have a substituent, comprising:

reacting an N-aralkylpiperidone derivative represented by the following general formula (6):



(6)

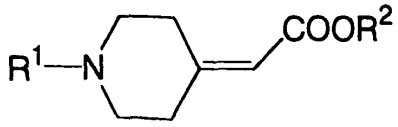
wherein R^1 represents an aralkyl group which may have a substituent, with a phosphate reagent represented by the following general formula (7):



(7)

wherein R^2 represents an alkyl group and R^3 represents an alkyl group or aryl group, in the presence of a base, thereby obtaining a piperidylideneacetic acid

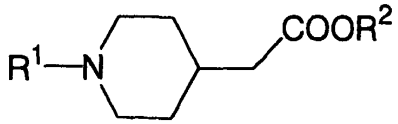
derivative represented by the following general formula (8):



(8)

wherein R^1 represents an aralkyl group which may have a substituent and R^2 represents an alkyl group;

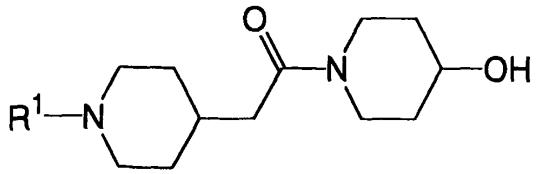
reducing the piperidylideneacetic acid derivative to a piperidylacetic acid derivative represented by the following general formula (9):



(9)

wherein R^1 represents an aralkyl group which may have a substituent and R^2 represents an alkyl group; and

reacting the piperidylacetic acid derivative with 4-hydroxypiperidine in the presence of a base, thereby obtaining an N-aralkylpiperidine derivative represented by the following general formula (1):



(1)

wherein R^1 represents an aralkyl group which may have a substituent.

5. The method according to claim 1, wherein R^1 represents a benzyl group which may have a substituent.

6. The method according to claim 1, wherein R^1 represents a benzyl group.

7. The method according to claim 1, wherein R^4 represents a straight-chain or branched alkyl group having 1 to 6 carbon atoms.

8. The method according to claim 1, wherein R^4 represents a t-butyl group.

9. The method according to claim 1, wherein R^1 represents a benzyl group, and R^4 represents a t-butyl group.

10. The method according to claim 2, wherein R^1 represents a benzyl group which may have a substituent.

11. The method according to claim 2, wherein R^1 represents a benzyl group.

12. The method according to claim 2, wherein R^4 represents a straight-chain or branched alkyl group having 1 to 6 carbon atoms.

13. The method according to claim 2, wherein R^4 represents a t-butyl group.

14. The method according to claim 2, wherein R^1 represents a benzyl group, and R^4 represents a t-butyl group.

15. The N-aralkylpiperidine derivative according to claim 3, wherein R^1 represents a benzyl group which may have a substituent.

16. The N-aralkylpiperidine derivative according to claim 3, wherein R^1 represents a benzyl group.

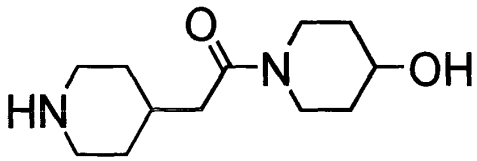
17. The method according to claim 4, wherein R^1 represents a benzyl group which may have a substituent.

18. The method according to claim 4, wherein R^1 represents a benzyl group.

19. The method according to claim 4, wherein R^2 represents a methyl group or ethyl group, and R^3 represents a methyl group, ethyl group or phenyl group.

20. The method according to claim 4, wherein R^1 represents a benzyl group, R^2 represents a ethyl group, and R^3 represents a ethyl group.

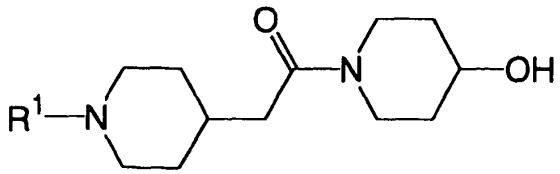
21. A method of producing 1-(4-piperidylacetyl)-4-hydroxypiperidine represented by the following formula (10):



(10)

comprising:

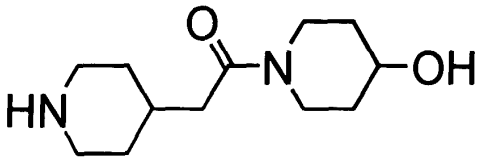
de-aralkylating an N-aralkylpiperidine derivative of the following general formula (1):



(1)

wherein R^1 represents an aralkyl group which may have a substituent.

22. 1-(4-piperidylacetyl)-4-hydroxypiperidine represented by the following formula (10):



(10)